Teaching Educators How to Integrate Tablet PCs into Their Classrooms

Michael K. Nelson
University of Hawaii at Manoa, College of Education
Learning Design and Technology Department
United States of America
mknelson@hawaii.edu
http://etec687tabletpc.weebly.com

Tablet PCs have been identified in the education community as a potentially innovative technology tool that can positively impact classroom pedagogy and student involvement with learning. Tablet PCs have all the functionality and robustness of a laptop computer as well as the added benefit of tablet features such as using a stylus to write on the screen like a writing pad. The tablet PC has been integrated into the classroom setting in a number of key ways: 1) Teachers and students can write directly on the screen to input text. 2) It can be used with Microsoft OneNote as an electronic whiteboard. 3) Existing files such as PowerPoints or pdf's can be annotated and saved. 4) Real time lectures can be recorded for later viewing. Research indicates that barriers exist to educators adopting technology such as the tablet PC into their classroom environment. This research project focuses on the design and development of an instructional web site that educates secondary teachers on the innovative features of the tablet PCs so they can ultimately use this knowledge to integrate this technology into their classrooms and positively impact their pedagogy.

Introduction

Tablet PCs are enabling educators and learners with convenient ways to deliver and improve learning. The tablet PC was "identified as an innovative teaching technology" (Le Ber, Lombardo, & Quilter, 2008, p. 19). Furthermore, "today's classrooms are becoming fully wireless" (Roschelle et al., 2007, p. 43), thereby allowing educators to access unlimited amounts of information quickly and gather students' responses when given the proper technology tools. In the classroom, the tablet PC "is an easily-adopted technology that can have positive effects on student attention and learning" (Wise, Toto, & Lim, 2006, p. 20).

A tablet PC is a convertible laptop providing a keyboard for typical computer use and a touch sensitive screen with a stylus pen device allowing users to write directly on the screen (Steinweg, Williams, & Stapleton, 2010). It can be coupled with a video projector so that teachers can "face a class, display questions and step by step solutions clearly to all students, respond quickly to unplanned student questions, and most importantly record all details of a lecture using screen capture and voice recording software" (Galligan,

Loch, McDonald, & Taylor, 2010, p. 40). In order for educators to successfully implement tablets PCs into their teaching, they must be educated on their uses and features. The purpose of this project is to design an instructional web site that educates secondary teachers on the innovative features of tablet PCs so they can ultimately use this knowledge to integrate tablets into their classrooms and positively impact their pedagogy.

Literature Review

With the demand to teach 21st century skills nationwide and educate students on a global level, tablet PCs may become the device of choice used by learners as well as educators (Moran, Hawkes, & Gayar, 2010). Research has revealed that students show a consistently positive perception regarding tablet PCs with on-line as well as on-campus lectures (Steinweg et al., 2010). Educators are being expected to use 21st century technology in their lessons though they may not be properly trained on how to implement this new technology. This literature review briefly summarizes three important aspects of tablet PCs: features and uses of tablet PCs in educational settings, impact of tablet PCs on student learning, and the integration of tablet PCs into educators' pedagogies.

Features and Uses of Tablet PCs in Educational Settings

"The unique features of Tablet PCs, graphics Tablets or digital pens allow the user to easily write symbolic and graphical information electronically" (Galligan et al., 2010, p.39). The use of the scribble, electronic pen feature allows the instructor to write notes and annotations to their lectures in real time. Many instructors will use Microsoft Office files as a basis for their class lectures and then annotate them using the stylus directly within PowerPoint or Word (Fister & McCarthy, 2008). As teachers are presenting the PowerPoint slides, they are able to make adjustments to the lecture based on classroom feedback.

With the excellent graphics of the tablet PC and the ability to write and draw on the screen, teachers and students are given the opportunity to see important features and concepts using appealing visuals (Fister & McCarthy, 2008). In particular, "mathematical disciplines rely heavily on the use of symbols and graphs where the teacher traditionally writes or draws by hand" (Galligan et al., 2010, p. 39.). Since pre-made PowerPoint presentations are not always ideal for teaching mathematics, the tablet PC has features that allow for free-form notes, using software such as Windows Journal or Microsoft OneNote, which makes the experience similar to writing on a whiteboard (Fister & McCarthy, 2008). The electronic ink feature also allows the teacher to write on the whiteboard with different pens in various colors, widths, and styles, thereby eliminating the clutter, expense, and grime from needing multiple dry erase markers or chalk (Mock, 2004).

With the use of software such as TechSmith's Camtasia Studio, real-time audio recordings and video capture can be made with note annotations, therefore, allowing the student to better understand the context of the lesson (Mock, 2004). The instructor can upload the recorded lesson to classroom management software such as Blackboard

Collaborate. Reviewing the lessons asynchronously allows them the chance to learn the concepts which they may not have been able to do in a traditional class. (Fister & McCarthy, 2008).

In addition to the innovative features being used by instructors, many educational institutions have started implementing multiple tablet classrooms where the students also have them in their possession during the class lecture. At the University of Washington, faculty members have developed a system known as "Classroom Presenter" where the teacher's and students' tablet PCs are networked together (Mock, 2004). Similarly, at Cañada College in California, wirelessly networked tablet PCs and the software application, NetSupport School, facilitate various levels of interactions between the instructor and the students during class time. (Enriquez, 2010). Alternatively, the software platform, Group Scribbles, uses Scribble Sheets, similar to virtual Post-it® notes, to handwrite and post an idea or concept (Roschelle et al., 2007).

Impact of Tablet PCs on Student Learning

Overall, multiple studies have indicated that the impact of integrating tablet PCs has a positive effect on student learning. Generally, students have indicated that tablet PC use during class promotes active, engaged learning while also providing them the opportunity to review archived and annotated instructor notes (Le Ber et al., 2008). In a pilot-test of 150 students at an Orlando suburban middle school, participants voiced opinions that school is more engaging and that the tablet PC is helping them to become organized and not lose homework, notes, or assignments (Borja, 2003).

In a study at Cañada College, the impact on student learning was examined for a fundamentals circuits class (Enriquez, 2010). In the class, tablet PCs were both used by the instructor and the students, and the impact on student learning was statistically real. On average, students performed a grade letter better (B average) in the course than the comparison class (C average) where the traditional, instructed-centered pedagogy was utilized. Similarly, Fister and McCarthy (2008) noted a study that indicated tablet based classrooms performed 10-15% better on exams in comparison to non-tablet based classrooms. Also, Hawkes and Hategekimana (2010) found that tablet PCs improved the assessment results of students in mathematics courses at Dakota State University.

Incorporation of tablet PCs into the classroom environment has not only had a positive impact on students, but it is believed to have increased student ownership of their learning (Fister & McCarthy, 2008). The instructor can save tablet PC annotated notes and make them available to students via course management software such as Blackboard or WebCT (Fister & McCarthy, 2008). The access to archived notes caters to a variety of student learning styles and speeds. In a study at Murray State University, 93.1% of students surveyed downloaded the archived notes from their instructors during the semester (Fister & McCarthy, 2008). Similar feedback at the University of Southern Queensland indicated that students felt they were able to review the recorded lectures and archived notes at their own individual paces in order to successfully grasp the concepts (Galligan et al., 2010).

Integration of Tablet PCs into Educators' Pedagogies

The landscape of education has transformed so that technology and computers are becoming ubiquitous and accessible in classrooms (Ertmer, Ottenbreit-Leftwich, Sadik, Sendurur, & Sendurur, 2012). Ninety-seven percent of teachers surveyed indicated that they had access to one or more computers in their classroom and 96% of the computers had internet access (Ertmer et al., 2012). Despite the prevalence of computers and technology in the classroom, many challenges exist for educators to integrate technology, including tablet PCs, into the classroom experience and their pedagogy.

Generally speaking, teachers and faculty members are considered to be "digital immigrants" while students are "digital native" (Steinweg et al., 2010, p. 54) in terms of technology skills. However, recent research is beginning to suggest that younger, pre-service teachers are not technologically fluid enough to effectively integrate technology into their classrooms (Shaltry, Henriksen, Wu, & Dockson, 2013). In order to effectively integrate tablet PCs into the classroom, teachers will need to be properly trained on the useful features, learn how to quickly troubleshoot common problems, and plan their lessons to be student centered. Similar to the tablet PC, Mang and Wardley (2012) advocate that teachers must understand the iPad tablet's operating system, decide how they would like to use the tablets, and describe the features and benefits of the tablets to the class in order to successfully integrate technology.

Ertmer (2005) summarizes in her article that professional development should focus on increasing the confidence levels of teachers by building successful experiences with small changes rather than larger changes. A study of tablet PCs at the University of Utah (Le Ber et al., 2008) determined that the top features used by faculty in the classroom were to write with the stylus, use Windows Journal as a whiteboard, and save annotated files as a PDF. The faculty also indicated that tablet PCs have a learning curve associated with them and consequently, some teachers did not possess the time to achieve proficiency (Le Ber et al., 2008). One-on-one mentoring with educators may reduce the barriers to successfully integrating tablet PCs into their pedagogies.

Project Design & Development

As I started on my journey through the Learning Design and Technology Master's program, I became acquainted with the tablet PC, and I thought that it could be an innovative tool in the classroom. I originally did some research in my ETEC 611 and 613 classes and decided that the tablet PC could be a viable research project for the LTEC master's degree. As I was a novice on the tablet PCs features, I recognized that creating a research project around the tablet PC would be a win-win situation as I would also learn how to implement this technology into my classroom. I located two excellent resources on the tablet PC. The *Absolute Beginner's Guide to Tablet PCs* (Mathews, 2004) explained in depth what makes the tablet PC innovative and provided scenarios for how different occupations could integrate this technology into their livelihoods. Mathews' book also included information on using the stylus and electronic ink with applications such as Windows Journal and Microsoft OneNote. In my research, I

discovered a manual written by Microsoft for using the tablet PC from an educator's perspective (Microsoft in Education, n.d.). I recognized in my research and personal experience that most educators, like me, were unaware of the tablet PC, its innovative features, and its potential to enrich the classroom learning dynamic. From there, I decided that I would design an instructional web site that would focus on the key innovative features that educators could use in their pedagogies to enrich their teaching and positively impact student learning.

Learning Objectives and Instructional Design Model

The general instructional goal for this project was to educate teachers on the innovative features of the tablet PC so they can integrate them into their classroom and enrich their teaching pedagogy. Within the umbrella of the general instructional goal, several technical content goals and one behavioral goal were crafted and are listed below:

1. The teacher will be able to write on the tablet PC using the Input Panel's Keyboard and Writing Pad.
2. The teacher will be able to use the basic features of the electronic whiteboard using Microsoft OneNote. Basic features include: a) writing on the whiteboard with the stylus, b) changing the color and thickness attributes of the handwriting, c) erasing writing from the whiteboard, and d) customizing the whiteboard background by adding notebook lines or gridlines.
3. The teacher will be able to save the notes written on the electronic whiteboard and export them to an Adobe PDF file for archiving.
4. The teacher will be able to upload an existing file to Microsoft OneNote and then annotate the file with the stylus pen.
5. The teacher will be able to save the annotated file as an Adobe PDF file for archiving.
6. The teacher will be able to identify that Camtasia Studio is a leading software tool for recording a PowerPoint presentation live, including audio and annotations.
7. The teacher will gain the confidence and willingness to integrate the tablet PC technology into his/her classroom and teaching pedagogy.

The ADDIE (Analysis, Design, Development, Implementation, and Evaluation) model was used as the fundamental approach for creating this web-based instructional design project (Reiser & Dempsey, 2012). The iterative, cyclical process of the ADDIE model served as a structured framework for designing and developing the instructional design project (Peterson, 2003).

Instructional Design Project – Website Structure and Content

The tablet PC instructional module website was created on a Weebly web site and can be accessed at http://etec687tabletpc.weebly.com. Also, a screenshot of the Home page is available in Appendix A. Weebly was chosen because a novice web designer can easily and quickly create a quality web site product with the user-friendly, intuitive interface

(Shaltry et al., 2013). At the same time, Weebly offers flexibility in customizing and enhancing the website with Web 2.0 tools (Berg, 2011).

The instructional module website was organized into progressing sub-lessons, starting with an introduction to the features of the tablet PC. Screenshots of the instructional modules are available in Appendix B. Each instructional lesson was comprised of an introductory reading along with audio and video to illustrate in a step-by-step method how to use the specific feature. A total of 6 modules were created, including the following topics: 1) Introducing the Tablet PC, 2) Writing on the Tablet PC with the Input Panel, 3) Using the Electronic Whiteboard Feature, 4) Annotating an Existing File, 5) Audio/Video Capture Using Software such as Camtasia Studio, and 6) Wrap-Up & Conclusion. Figures 1 and 2 are screenshots showcasing the Input Panel and electronic whiteboard from the modules' video tutorials.

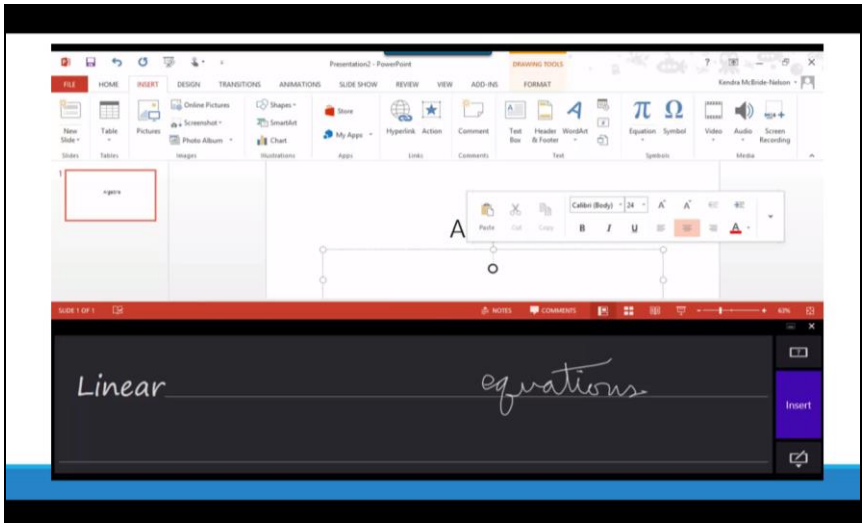

Figure 1. Using the Input Panel to input handwriting during Module 2's video tutorial.

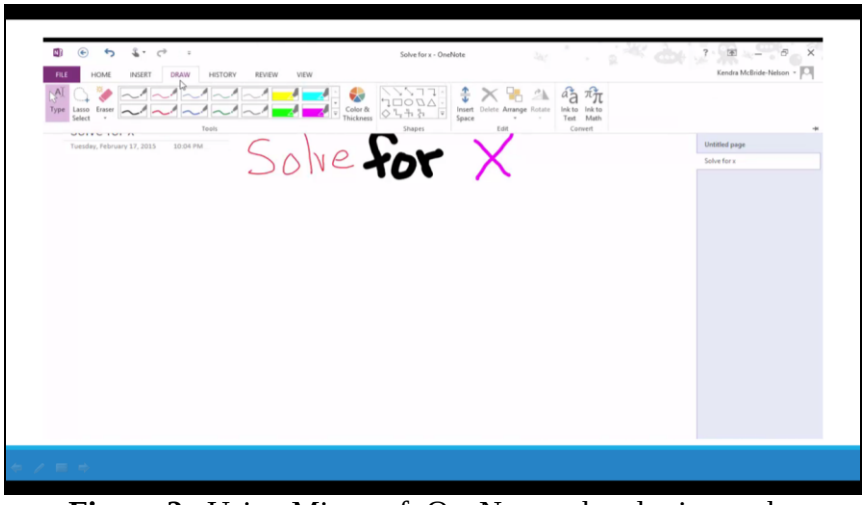

Figure 2. Using Microsoft OneNote to handwrite on the electronic whiteboard during Module 3's video tutorial.

In addition to the modules and tutorial lessons, surveys were incorporated throughout the website in order for visitors to provide feedback. The pre-questionnaire, post-questionnaire, and Modules 1-5 surveys were designed and built using Google Forms. Screenshots of the feedback surveys are available in Appendix C. There were several things that I particularly liked about Google Forms: 1) It is a free Web 2.0 tool, 2) It is part of the Google Docs suite of tools (I gained substantial experience with Google Docs during the LTEC program.), 3) It was pretty easy to build a survey, publish it, and then create a link to it for quick access, and 4) Google Forms captures all the survey responses in a spreadsheet that updates as additional visitors submit responses. For this research project, I followed standard Instructional Design procedures to evaluate the website's effectiveness in educating teachers about the tablet PC's innovative features.

In addition to the instructional modules and feedback surveys, I included Blog and Contacts pages in my final instructional design project website prototype. The intention of the Blog page was to provide an avenue for website visitors to share their comments about the tablet PC. The Contacts page contains a brief autobiography about myself along with a form to contact me directly if the website visitor was interested. Screenshots of the Blog and Contacts pages are available in Appendices D and E.

A variety of Web 2.0 tools were incorporated into the instructional design website in order to improve its content, attractiveness, and usability. The website, AudioPal (http://www.audiopal.com), was used to record the audio components of the website and then create audio widgets that were integrated into the website. TechSmith's software applications, Camtasia Studio and SnagIt, were used to create and produce video tutorials that included features such as title screens, voiceovers, and animated callouts. The final tutorial products were embedded into Modules 2 through 5 for viewing by website visitors. The feedback surveys from the instructional module design website were created and hosted by Google Forms. Weebly, AudioPal, and Google Forms were all selected in designing this project because they are free Web 2.0 tools that offer robust functionality.

Challenges with Web 2.0 Tools

As with the design of any project, I experienced a number of obstacles during the development and implementation phases which resulted in multiple versions of the instructional design website. My obstacles focused around: 1) functionality problems with several Web 2.0 tools, 2) operating system and browser compatibility issues with the website, 3) hardware challenges with the tablet PC and stylus, and 4) the technical learning curve associated with recording the instructional modules.

Originally, several different Web 2.0 tools were selected in the design of the website. Screencast-O-Matic (http://www.screencast-o-matic.com) was originally chosen to record the video for the tutorial lessons. I had previous experience with Screencast-O-Matic from another ETEC class and it was also a free Web 2.0 tool. However, I soon realized that Screencast-O-Matic, even the paid, full-feature version, lacked the robustness and

functionality needed to create a quality video production that Camtasia Studio possessed. Also, there was a "bug" or incompatibility with my tablet PC and Screencast-o-Matic. When I was recording Module 2 (Input Panel), Screencast-o-Matic's recording control bar became stuck in the middle of the recording area. Unfortunately, even after producing the final video product, the recording bar remained visible in the middle of the screen, as shown in Figure 3. As there appeared to be no workaround for this "bug", I purchased software licenses for Camtasia Studio and SnagIt. It was certainly challenging to be in the middle of the website's development process and became competent with another software program. However, the quality of the videos produced with Camtasia Studio and SnagIt were far superior to any video that I could have created with Screencast-o-Matic.

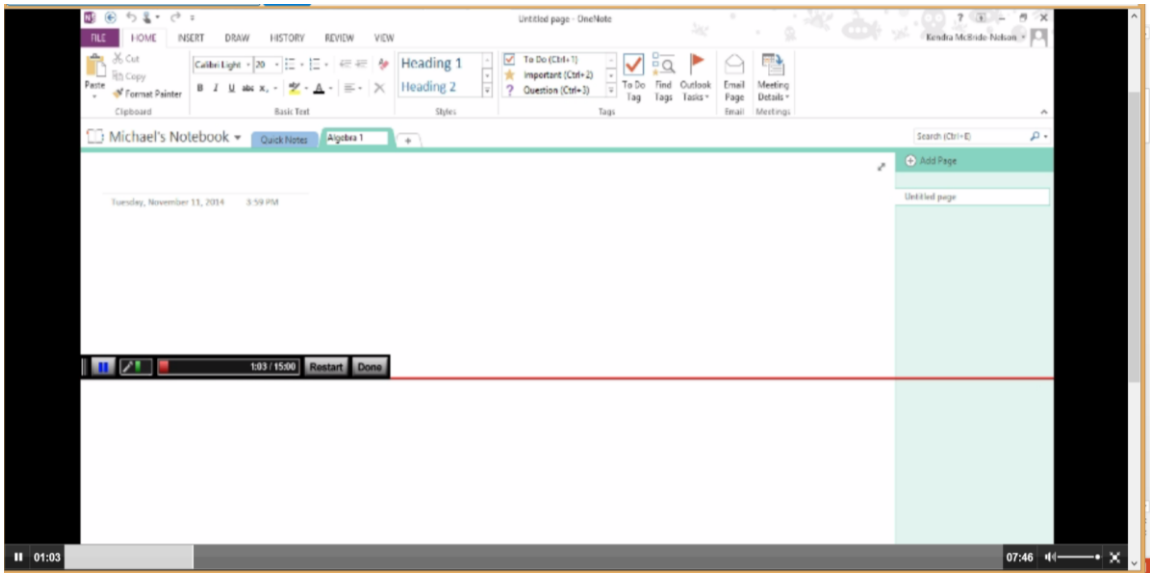

Figure 3. Screenshot of a Screencast-o-Matic recording, illustrating the problematic recording bar and red line in the center of the screen.

When I initially recorded the audio for my instructional design website, I selected the Web 2.0 tool, SoundCloud. I did not experience any difficulties recording with SoundCloud, and I was pleased with the audio quality. However, when the audio was embedded as an object on the web page, I felt it detracted from the professionalism of the website. SoundCloud's audio widget displayed my SoundCloud user name along with the audio track's name and the audio bars, and I did not find these attributes to be visually appealing. Lastly, I experienced technical problems with the widget, as it would not consistently stop playing the audio when paused. At this point, I am not sure if this is a "bug" of SoundCloud or if it was an internet browser and/or computer operating system incompatibility. After searching the Internet for another audio tool, I located AudioPal. I would simply upload a pre-recorded MP3 audio file and then AudioPal would provide the HTML code to embed the object on the web page. In my opinion, the AudioPal widgets are sleek and compact, and they advantageously display distinct Play and Stop buttons. Figures 4 and 5 illustrate the SoundCloud and AudioPal audio widgets.

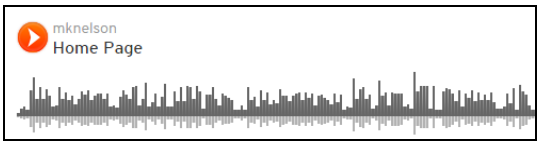

Figure 4. SoundCloud audio widget used in initial versions of the website.

Figure 5. AudioPal audio widget integrated into final website prototype.

Additional Key Obstacles Encountered During Design and Development

I encountered another obstacle late in the implementation phase of my design project. The instructional design website was created using Weebly in a Windows 8 operating system and Internet Explorer browser environment. Initially, I did not perform any quality assurance checks with different operating systems and/or browsers. When I tried to view Module 5 with a Mac/Firefox combination, I learned that the video tutorial was not playing correctly. Although the audio functioned properly, the video display froze and animations could not be seen. SnagIt was specifically utilized in Module 5 to capture how to used Camtasia Studio to record a PowerPoint presentation. After researching the problem, I concluded that there must an incompatibility with SnagIt and the Mac/Firefox browser/platform combination.

In formulating this instructional design project, I found there was a significant learning curve to understand the particularities of the various tablet technologies. In my initial research of the tablet PC, I was under the impression that my stylus would permit me to write on the screen like a ballpoint pen. I soon learned that my handwriting looked like I was writing with a crayon rather a pencil or ballpoint pen. After some extensive research, I realized that my tablet PC was not equipped with a digitizer pen like most tablet PCs are. Instead my Dell XPS 12 2-in-1 Ultrabook™ was equipped with Touch Screen technology and can only utilize a capacitive stylus. This was certainly a significant disappointment during the project; however, it was not feasible either financially or from a time constraint to upgrade to a tablet PC with digitizer pen technology. Although it would have been ideal to use a tablet PC with digitizer pen technology, I was still able to create a quality instructional design website with my current tablet PC.

Lastly, the recording of the module tutorials proved to be more arduous than I originally imagined. The time investment to gain proficiency with Screencast-o-Matic, Camtasia Studio, and SnagIt was substantial. Each module tutorial required numerous recordings that involved modifying the script to improve the quality of the instructional lesson. It was also very time consuming to edit the recordings in Camtasia Studio and produce them as finished video recordings.

Conclusion

The innovative features of tablet PCs can potentially transform and "enhance the classroom experience to achieve more interactive and collaborative environments" (Enriquez, 2010, p. 77). A review of published literature indicates that current research and studies have primarily focused on the tablet PC integration and associated student

learning impacts at the college level. Therefore, many opportunities exist to study the K-12 setting and integrate the tablet PC into the classroom. Furthermore, as research suggests that both older and younger teachers may not be technologically fluent enough to effectively integrate technology into their classrooms, I focused my instructional design project on creating a website that could help to bridge the technology barriers and gaps. I created this web-based instructional tutorial with the intended goal to build secondary teacher confidence and skills using tablet PCs so that they can integrate this technology into their classrooms and teaching pedagogies.

In the process of designing and development my instructional design project, I grew significantly from being more of a "digital immigrant" towards being more of a "digital native" (Steinweg et al., 2010, p. 54) in terms of my technology skills. Ultimately, I created the website that I envisioned and became a proficient user of the tablet PC. I gained website development experience, acquired skills with using Web 2.0 tools, and can successfully produce videos using high-quality software programs like Camtasia Studio and SnagIt.

In conclusion, my master's project took me on the exciting journey of learning about educational technology and specifically, learning about the nuances of the emerging tablet technology market. In retrospect, if I was to repeat this instructional design project, I would have selected the Microsoft Surface Pro 3, as it integrates all the best features of the tablet PC, the personal computer, and tablet into one system. The Surface Pro 3 uses digitizer pen technology that writes with high level of precision and artistic style. I am confident that I will be soon upgrading to the Surface Pro 3 so I can endeavor towards transforming my teaching pedagogy and cultivating an excellent classroom experience for my students. In my professional opinion, I wholeheartedly agree that the tablet PC is truly an "innovative teaching technology" (Le Ber, Lombardo, & Quilter, 2008, p. 19).

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APPENDIX A
Instructional Design Project: Home Page

http://etec687tabletpc.weebly.com

Website Screenshot: Home Page

- Includes introductory audio (upper-right corner).
- Includes link to the pre-questionnaire survey (that opens in a new browser window).

APPENDIX B1
Instructional Design Project: Learning Modules Overview Page

http://etec687tabletpc.weebly.com

Website Screenshot: Learning Modules Overview Page

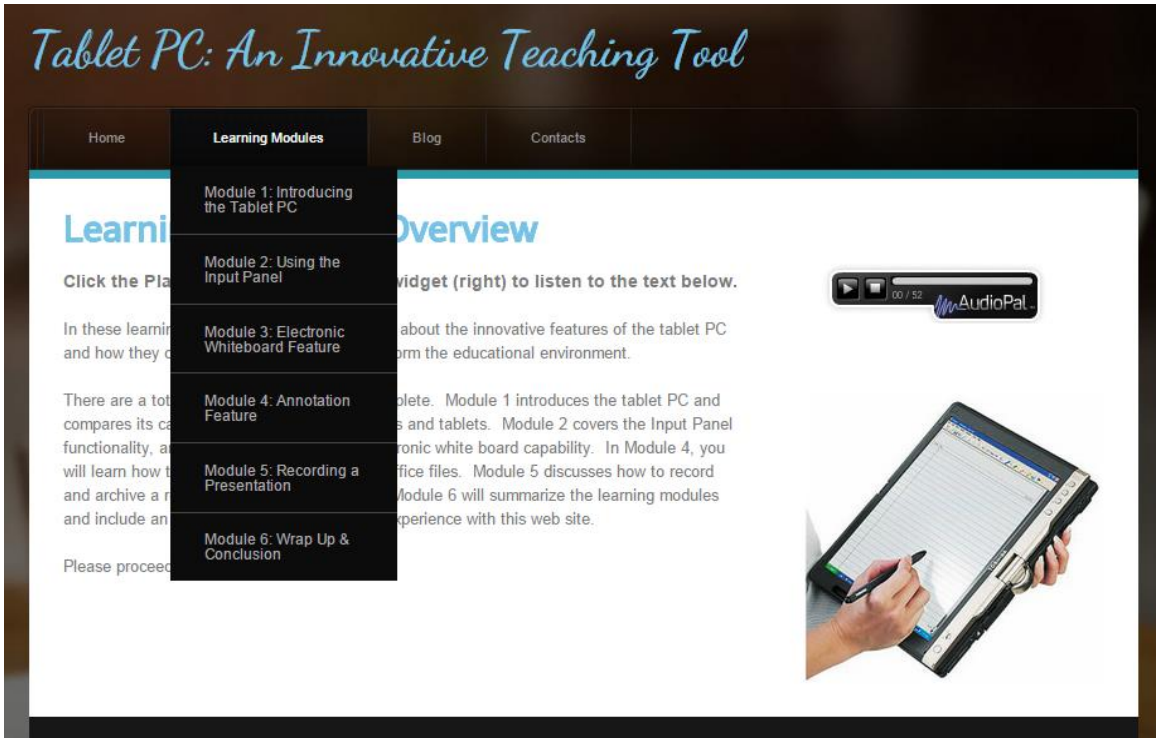
- Includes introductory audio (upper-right corner).
- Provides brief overview of the learning modules.
- Includes link to Module 1.

APPENDIX B2
Instructional Design Project: Learning Modules Dropdown Menu

http://etec687tabletpc.weebly.com

Website Screenshot: Learning Modules Dropdown Menu

- Learning Modules dropdown menu provides access to Modules 1-6.



APPENDIX B3
Instructional Design Project: Module 1

http://etec687tabletpc.weebly.com

Website Screenshot: Module 1 – Meet the Tablet PC

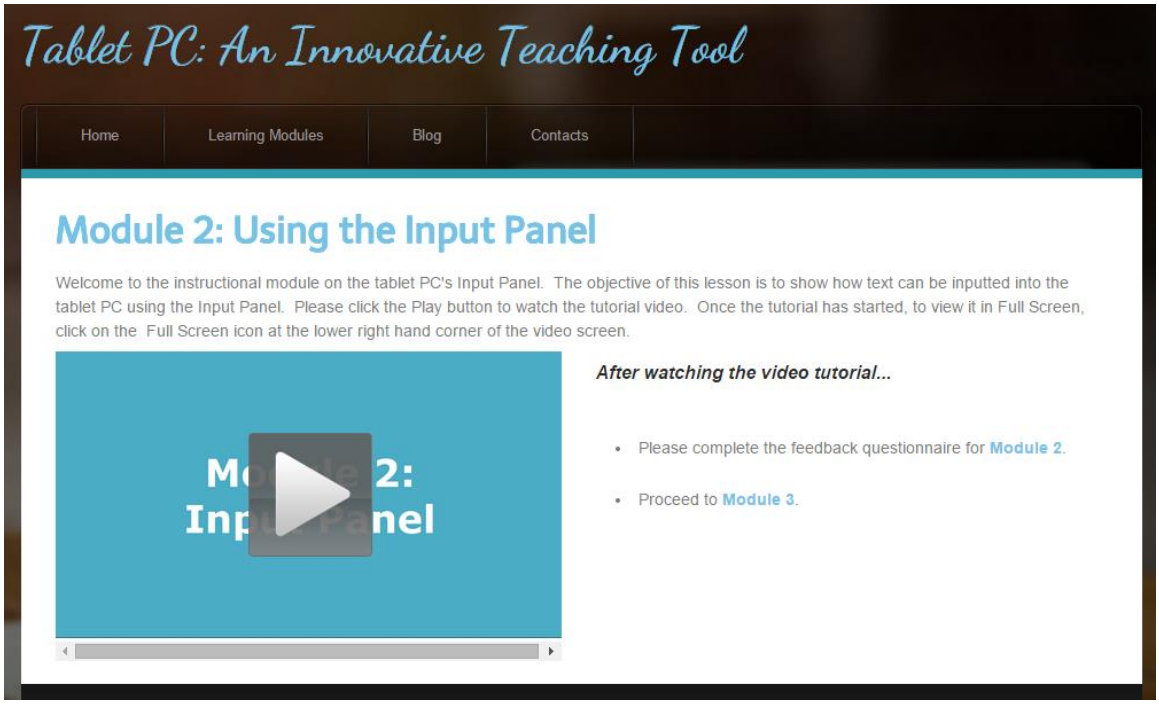
- Includes audio recording of the module (upper center).
- Explains key differences between desktop/laptop PC, tablet PC, and tablet.
- Includes link to Module 2.
- Participant feedback link is located in the upper right corner of the page. Survey opens in a new browser window.

APPENDIX B4
Instructional Design Project: Module 2

http://etec687tabletpc.weebly.com

Website Screenshot: Module 2 – Using the Input Panel

- Module 2 has a video tutorial to instruct Input Panel features.
- Participant feedback link is located on the right side of the page. Survey opens in a new browser window.
- Includes link to Module 3.



APPENDIX B5
Instructional Design Project: Module 3

http://etec687tabletpc.weebly.com

Website Screenshot: Module 3 – Electronic Whiteboard

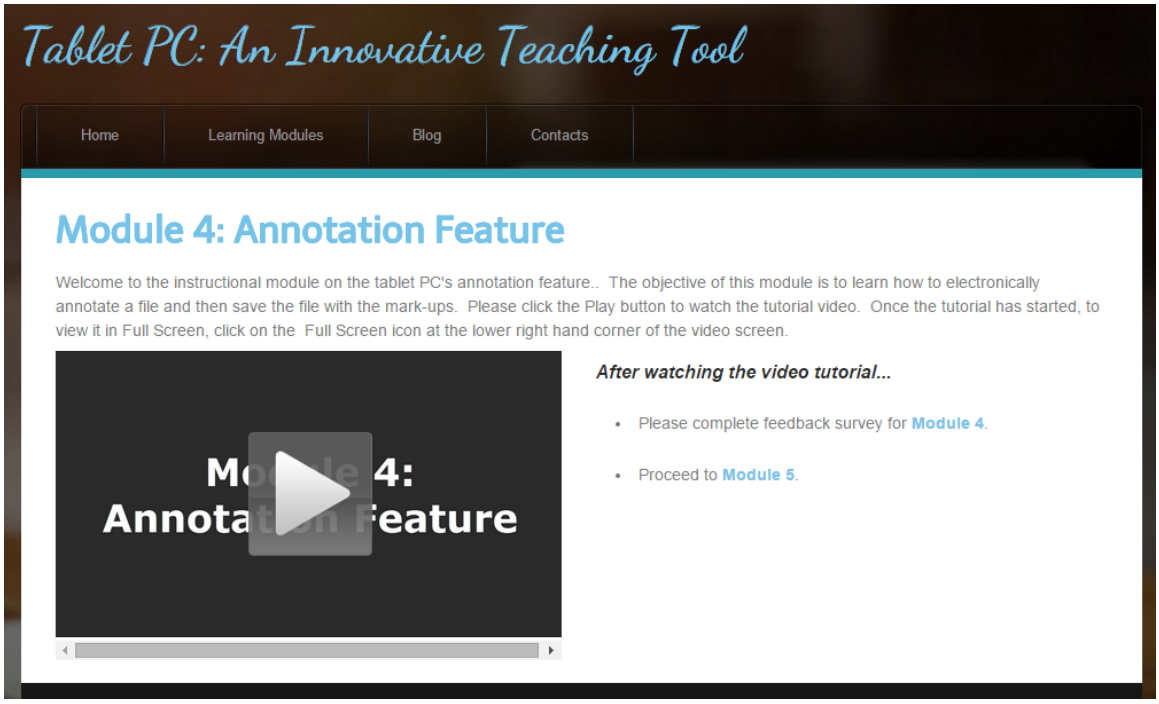
- Module 3 has a video tutorial to instruct on the electronic whiteboard.
- Participant feedback link is located on the right side of the page. Survey opens in a new browser window.
- Includes link to Module 4.
- There is also a link to additional OneNote tutorials by Microsoft.

APPENDIX B6
Instructional Design Project: Module 4

http://etec687tabletpc.weebly.com

Website Screenshot: Module 4 – Annotation Feature

- Module 4 has a video tutorial to instruct on the annotation feature.
- Participant feedback link is located on the right side of the page. Survey opens in a new browser window.
- Includes link to Module 5.



APPENDIX B7
Instructional Design Project: Module 5

http://etec687tabletpc.weebly.com

Website Screenshot: Module 5 – Recording a PowerPoint Presentation

- Module 5 has a video tutorial to instruct on how to record a PowerPoint presentation with Camtasia Studio.
- Participant feedback link is located on the right side of the page. Survey opens in a new browser window.
- Includes link to Module 6.
- The web page includes a link to additional Camtasia Studio tutorials by TechSmith.

APPENDIX B8
Instructional Design Project: Module 6

http://etec687tabletpc.weebly.com

Website Screenshot: Module 6 – Wrap Up & Conclusion

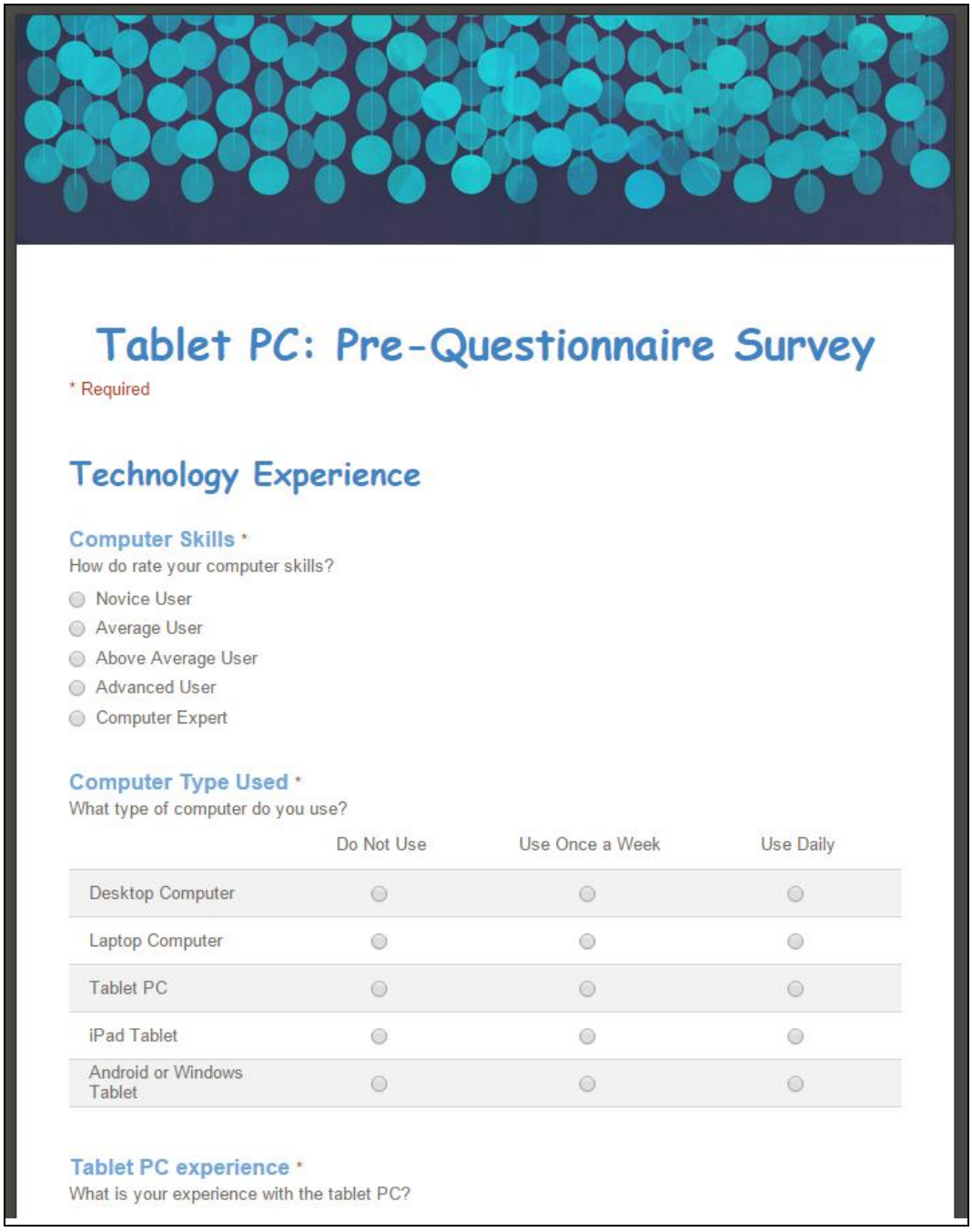
- Module 6 briefly summarizes Modules 1-5.
- There is a link to the post-questionnaire survey (that opens in a new browser window).
- There are also links to the Blog and Contacts pages.

APPENDIX C1
Instructional Design Project: Pre-Questionnaire Survey

http://etec687tabletpc.weebly.com

Website Screenshot: Pre-Questionnaire Survey

- Pre-questionnaire survey was created in Google Forms.



Tablet PC: Pre-Questionnaire Survey

* Required

Technology Experience

Computer Skills *

How do rate your computer skills?

- Novice User
- Average User
- Above Average User
- Advanced User
- Computer Expert

Computer Type Used *

What type of computer do you use?

	Do Not Use	Use Once a Week	Use Daily
Desktop Computer			
Laptop Computer			
Tablet PC			
iPad Tablet			
Android or Windows Tablet			

Tablet PC experience *

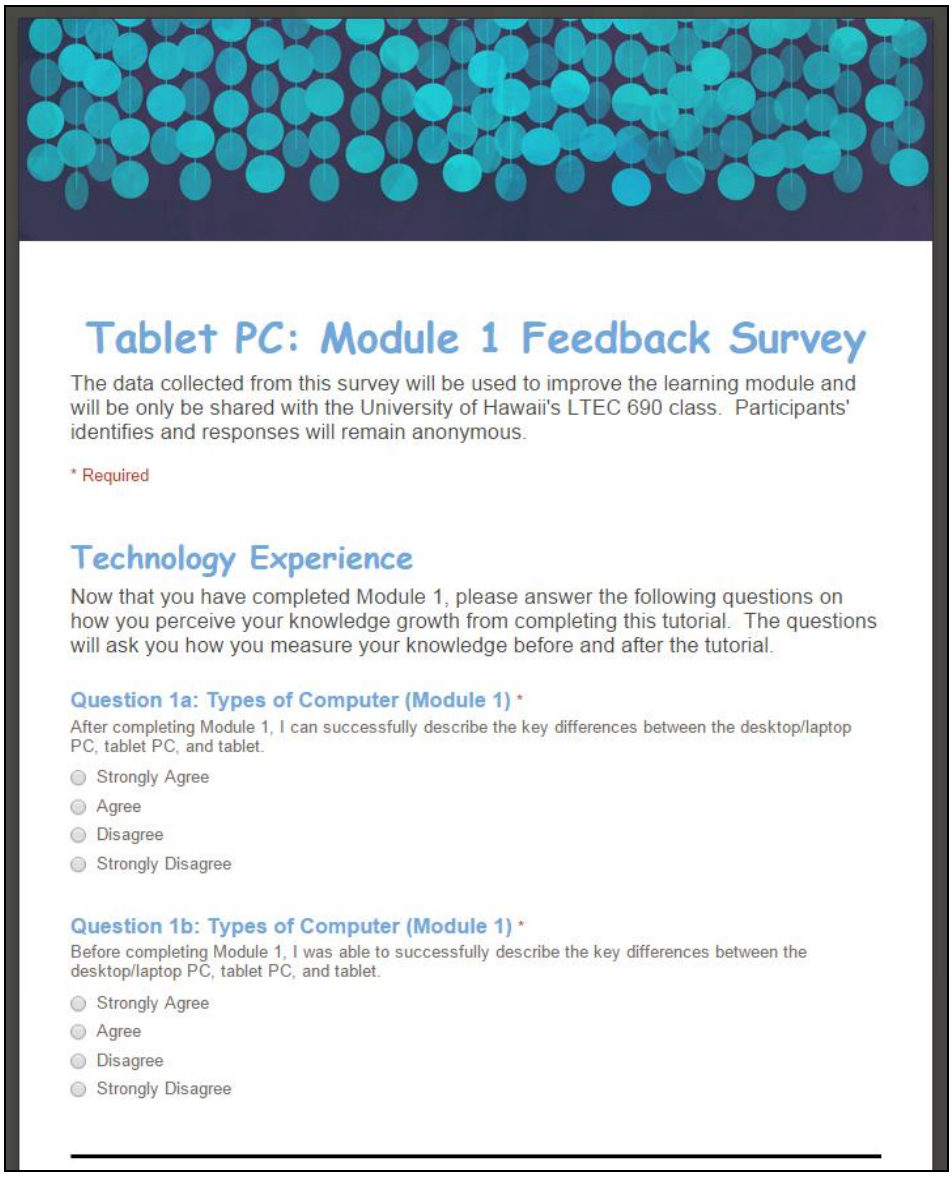
What is your experience with the tablet PC?

APPENDIX C2
Instructional Design Project: Module 1 Feedback Survey

http://etec687tabletpc.weebly.com

Website Screenshot: Module 1 Feedback Survey – Retrospective Questions

- Feedback survey was created with Google Forms.
- Part 1 of the survey uses retrospective questioning. The user is asked to rate their skill level with specific technical objectives ***after*** and ***before*** completing the instructional module.
- Modules 2-5 also have retrospective questions on various technical topics. (Each module varies in the number of retrospective questions based on the number of learning objectives covered during the module.)



Tablet PC: Module 1 Feedback Survey

The data collected from this survey will be used to improve the learning module and will be only be shared with the University of Hawaii's LTEC 690 class. Participants' identifies and responses will remain anonymous.

* Required

Technology Experience

Now that you have completed Module 1, please answer the following questions on how you perceive your knowledge growth from completing this tutorial. The questions will ask you how you measure your knowledge before and after the tutorial.

Question 1a: Types of Computer (Module 1) *

After completing Module 1, I can successfully describe the key differences between the desktop/laptop PC, tablet PC, and tablet.

- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

Question 1b: Types of Computer (Module 1) *

Before completing Module 1, I was able to successfully describe the key differences between the desktop/laptop PC, tablet PC, and tablet.

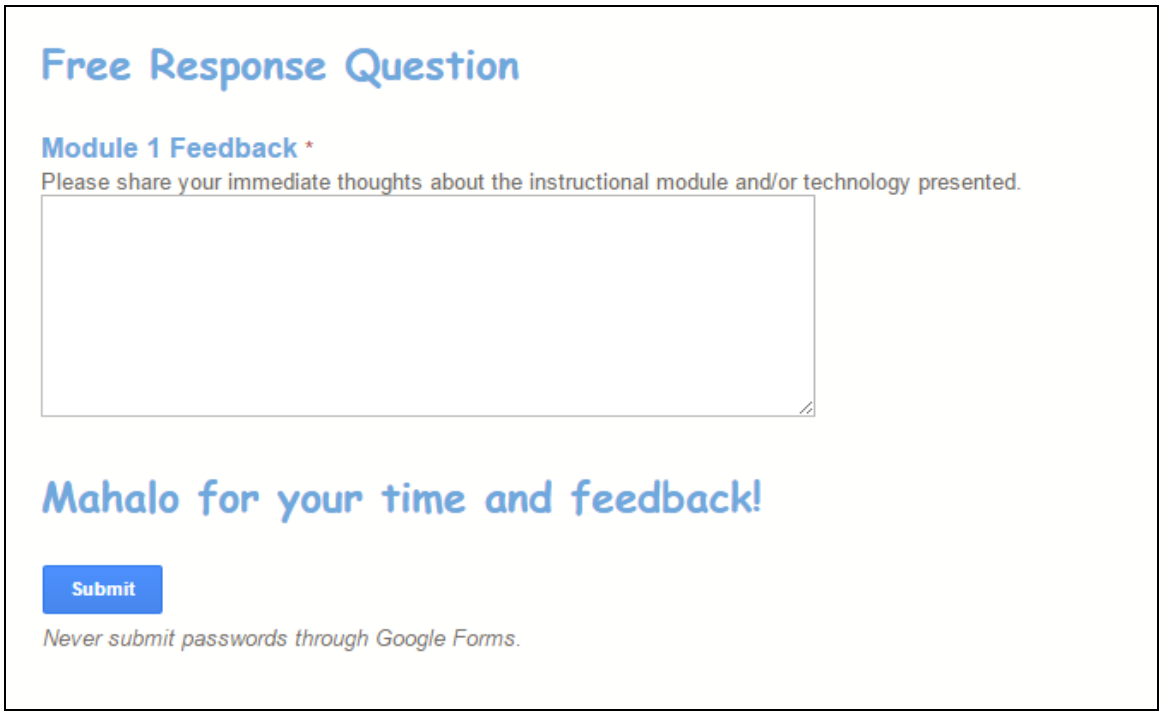
- Strongly Agree
- Agree
- Disagree
- Strongly Disagree

APPENDIX C2
Instructional Design Project: Module 1 Feedback Survey

http://etec687tabletpc.weebly.com

Website Screenshot: Module 1 Feedback Survey – Free Response

- Part 2 of the survey includes a free response section, which asks the user for ad-hoc, immediate comments on the instructional module.
- Modules 2-5 also have free response feedback sections.

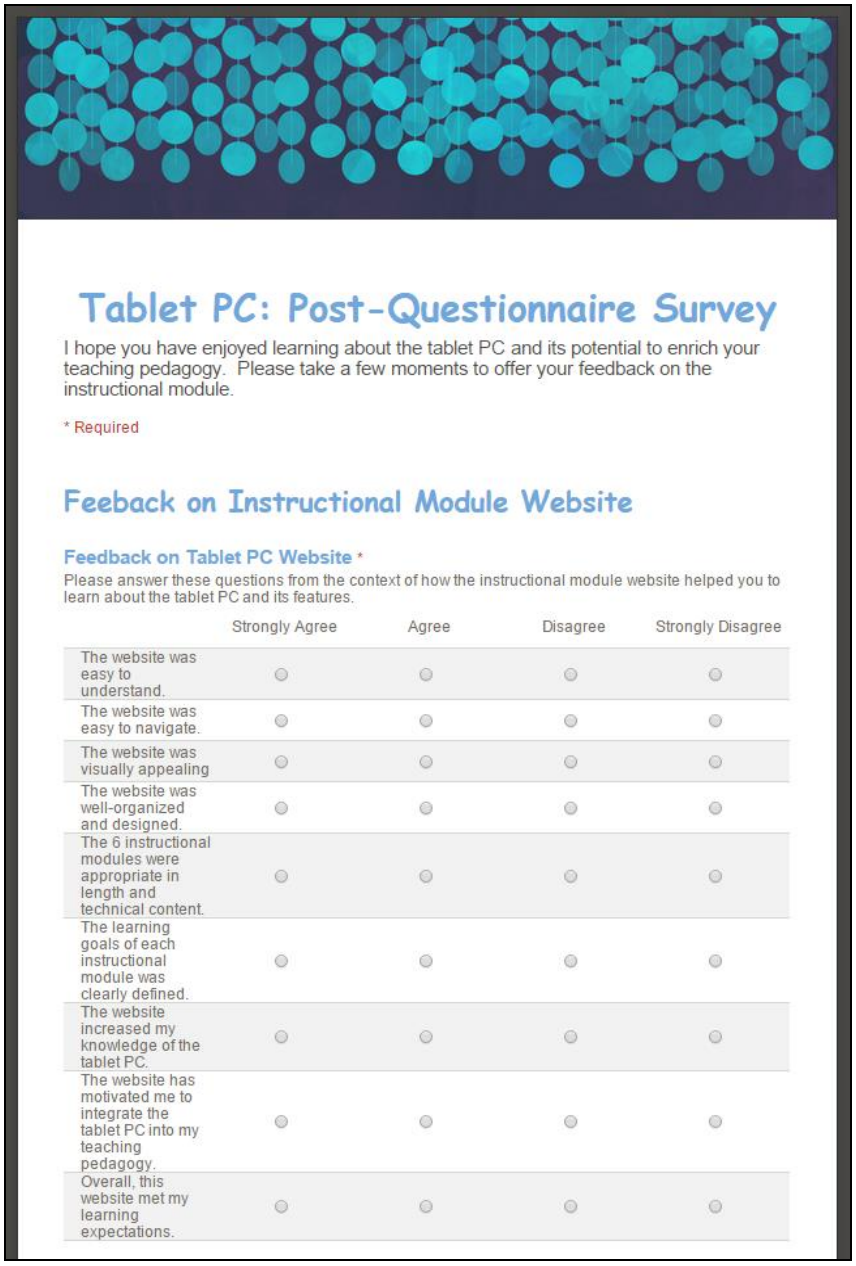


APPENDIX C3
Instructional Design Project: Post-Questionnaire Survey

http://etec687tabletpc.weebly.com

Website Screenshot: Post-Questionnaire Survey – Website Feedback

- Post-questionnaire survey was created with Google Forms.
- First part of survey focuses on overall feedback for the instructional module website.



Tablet PC: Post-Questionnaire Survey

I hope you have enjoyed learning about the tablet PC and its potential to enrich your teaching pedagogy. Please take a few moments to offer your feedback on the instructional module.

* Required

Feeback on Instructional Module Website

Feedback on Tablet PC Website *

Please answer these questions from the context of how the instructional module website helped you to learn about the tablet PC and its features.

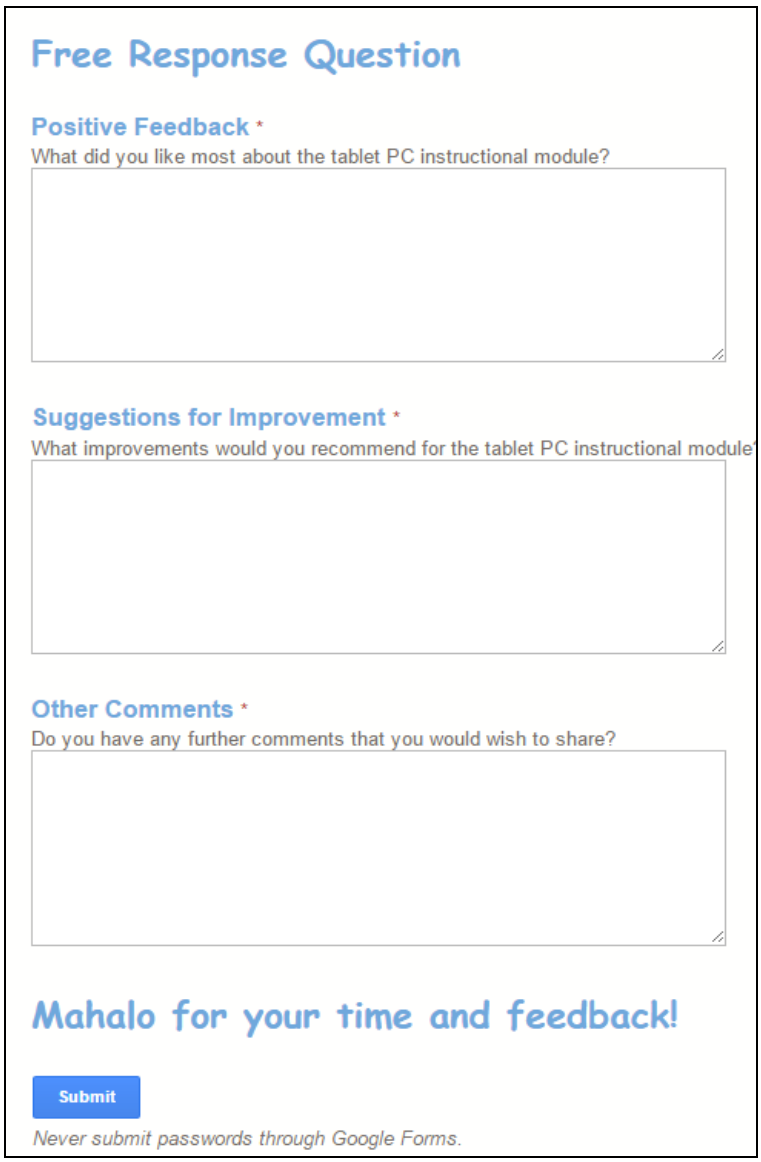
	Strongly Agree	Agree	Disagree	Strongly Disagree
The website was easy to understand.				
The website was easy to navigate.				
The website was visually appealing				
The website was well-organized and designed.				
The 6 instructional modules were appropriate in length and technical content.				
The learning goals of each instructional module was clearly defined.				
The website increased my knowledge of the tablet PC.				
The website has motivated me to integrate the tablet PC into my teaching pedagogy.				
Overall, this website met my learning expectations.				

APPENDIX C3
Instructional Design Project: Post-Questionnaire Survey

http://etec687tabletpc.weebly.com

Website Screenshot: Post-Questionnaire Survey – Free Response Questions

- Post-questionnaire survey was created with Google Forms.
- Second part of survey has free response questions asking for positive feedback along with suggestions for improvement from the participants after the instructional module website.

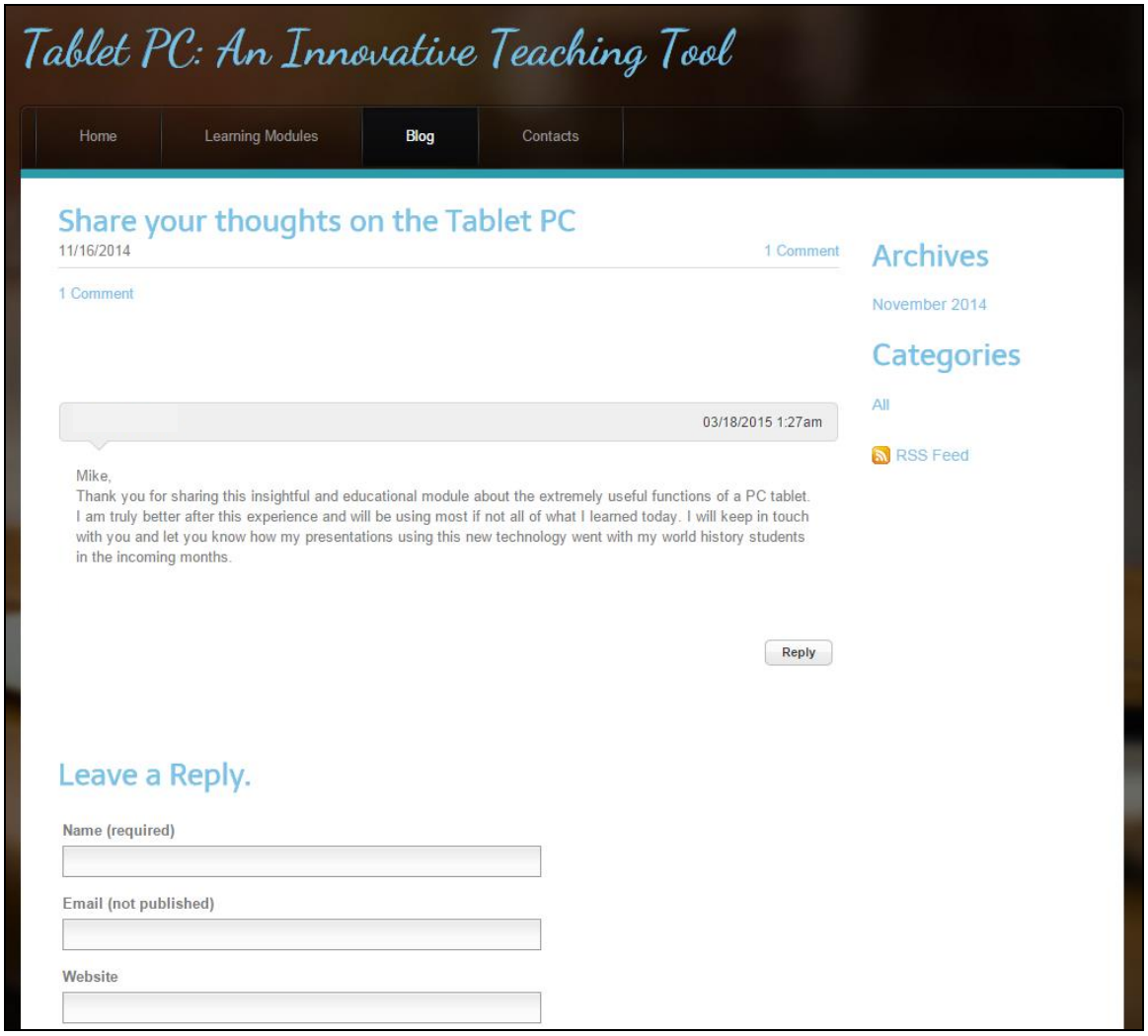


APPENDIX D
Instructional Design Project: Blog Page

http://etec687tabletpc.weebly.com

Website Screenshot: Blog Page

- Web site visitors can share their thoughts about the tablet PC and the instructional module website on the Blog page.



APPENDIX E
Instructional Design Project: Contacts Page

http://etec687tabletpc.weebly.com

Website Screenshot: Contacts Page

- Contacts page contains a form for web site visitors to send a question or comment.
- Brief autobiography is included on this page.